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CS166 Project Phase 2
Group - 166th Database

For phase 2, we worked on it similarly to phase 1. We worked on it separately to see if we understood the concepts. After we each had a relational schema design, we compared our work and assumptions and used both our ideas to create a final relational schema design.

Relational Schema Design

Christian Campos → I based my relational schema tables on lab 3 notes. I created 1 to many and many to many relationships. In addition, some entities were created differently due to being participation constraint , weak entities, ISA hierarchies , and etc. I have no 1 to 1 relationships.

Kyle Dean → For the design of my relational schema I followed the lab 3 notes. For each entity, I made a table and if the entity had an attribute that was underlined I made that specific attribute a primary key in the table. Some tables were created based on concepts from the lab 3 notes such as 'ISA' hierarchy, participation constraints, and weak entities. The ER diagram did not include any one-to-one relationships.

Assumptions

We have assumptions included in our relational schema design file. Below is a list of other assumptions that we made during our design process:

1. The 'uses' relationship that connects flight, plane, and pilot is a ternary relationship (RelationalModel lecture slides)

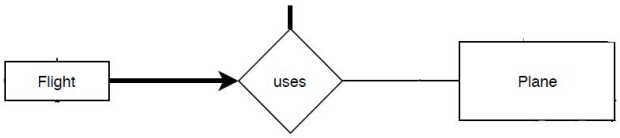
2. The 'has' relationship that connects flight, reservation and customer is a ternary relationship (RelationalModel lecture slides)

3. **Bold** lines represent participation constraints (lab 3 notes).

4. Binary relationships that have a line with an arrow and a line without an arrow represent one-to-many relationships (lab 3 notes).

5. Binary relationships that have two separate lines without an arrow represent many-to-many relationships (lab 3 notes).

6. We both concluded that the final relational schema design, based on the ER diagram, did not have any one-to-one relationships.



The example on the left is from the given ER diagram. ‘Uses’ is a ternary relationship that connects flight, plane, and pilot(not shown). The bold arrow represents a participation constraint of one while the thin line represents many which gives a one-to-many relationship between flight and plane.